CLAIMS

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. Apparatus for providing scheduling of a plurality of tasks of at least one application among processes in at least one computing node, each node having a plurality of local processes, comprising:

scheduler means for dynamically creating a prioritized schedule of said plurality of tasks; and

at least one local scheduler associated with said at least one computing node comprising means for ascertaining which of said plurality of tasks are assigned to each of said plurality of local processes and means for prioritizing said assigned process s in accordance with said prioritized schedule.

2. The apparatus of Claim 1 wherein said at least one computing node additionally comprises at least one operating system for receiving input from said means for prioritizing and for directing said assigned processes to execute said tasks in accordance with said prioritizing.

3. The apparatus of Claim 2 wherein said operating system is further adapted to interleave local operations with said tasks.

4. The apparatus of Claim 2 further comprising application coordinator means for communicating information about said plurality of tasks to said scheduler for use in dynamically creating said schedule.

5. The apparatus of Claim 2 wherein said local processes are adapted to perform tasks in parallel.

6. The apparatus of Claim 1 wherein said scheduler means comprises global scheduler means comprising means for dynamically scheduling and means for communicating said prioritized schedule to said at least one local scheduler.

7. The apparatus of Claim 6 wherein said local scheduler is adapted to communicate information about said plurality of local processes to said global scheduler.

8. The apparatus of Claim 6 wherein said global scheduler further comprises timer means associated with said communication means to periodically effect communication of said dynamically created prioritized schedule to said local schedulers.

9. The apparatus of Claim 6 wherein said global scheduler includes at least one table comprising the identity and address for each of said at least one local scheduler.

10. The apparatus of Claim 2 wherein said scheduler means comprises global scheduler means comprising means for dynamically scheduling and means for communicating said prioritized schedule to said at least one local scheduler.

11. A method for scheduling a plurality of tasks of at least one application among processes on at least one computing node, in a system having scheduler means and at least one computing node, each computing node having a plurality of local processes comprising the steps of:

providing application information to scheduler means;

dynamically creating a prioritized schedule of said plurality of tasks;

determining correspondence between said plurality of tasks and said plurality of local processes; and

dynamically prioritizing said local processes in accordance with said prioritized schedule.

12. The method of Claim 11 wherein said dynamically prioritizing comprises invoking operating system priorities to schedule tasks in accordance with said prioritized schedule.

13. The method of Claim 11 wherein said scheduler means is remotely located from said at least one computing node, further comprising the steps of communicating said prioritized schedule of tasks to said at least one computing node.

14. The method of Claim 12 further comprising the step of said local processes executing said tasks in parallel in accordance with said dynamic prioritizing.

15. The method of Claim 14 further comprising the step of communicating information about execution of said tasks to said remotely located scheduler.

16. The method of Claim 15 further comprising the steps of repeating said steps of dynamically creating a prioritized schedule of said plurality of tasks; determining correspondence between said plurality of tasks and said plurality of local processes; and dynamically prioritizing said local processes in accordance with said prioritized schedule; executing; and communicating information about execution until all tasks have been completed.

17. The method of Claim 14 further comprising the step of interleaving local operations with said executing.

18. The method of Claim 13 further comprising said remotely located scheduler dynamically maintaining at least one list of said at least one computing node.